

Name: Vignesh S

Regno: 192325002

**Experiment: 5. Write a Python function to analyze the histogram of the given input image based on color levels using Open CV.**

**Code:**

```
import cv2

import numpy as np

import matplotlib.pyplot as plt

def n(p):

    i = cv2.imread(p)

    if i is None:

        print("Image not found")

        return None, None, None

    b, g, r = cv2.split(i)

    hb = cv2.calcHist([b], [0], None, [256], [0,256])

    hg = cv2.calcHist([g], [0], None, [256], [0,256])

    hr = cv2.calcHist([r], [0], None, [256], [0,256])

    return hb, hg, hr

hb, hg, hr = n("image.jpg")

plt.figure()

plt.title("Color Histogram Analysis")

plt.xlabel("Pixel Intensity")

plt.ylabel("Number of Pixels")

plt.plot(hb, color='b')

plt.plot(hg, color='g')

plt.plot(hr, color='r')

plt.show()
```

## Input and Output:

